DOCUMENT RESUME

ED 132 210 TM 005 947

TITLE Conference Summary.
INSTITUTION California State Commission for Teacher Preparation and Licensing, Sacramento.
PUB DATE 73
NOTE 71p.; For related documents, see ED 127 364-375

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Academic Achievement; *Beginning Teachers; *Conference Reports; Educational Legislation; Elementary Education; *Research Design; *Teacher Behavior; *Teacher Certification; *Teacher Education; Teacher Evaluation; Teaching Skills

ABSTRACT

A summary of a Research Design Conference held by the California Commission for Teacher Preparation and Licensing to discuss planned research on teaching and potential designs for such research is presented. The first section is an overview of the need for research on teaching, a brief statement of the needs of the Commission for Teacher Preparation and Licensing for research data, and an outline of research tasks as originally developed by Commission staff. The structure of the Research Design Conference is described in the next section. The third section provides a summary of the conference discussions, followed by summary statements from some of the constituencies represented at the conference: school districts, teacher preparation institutions, and California educational organizations. Further sections summarize the conference proceedings relative to teacher characteristics necessary for positive teaching behaviors and alternative research designs. Sections of the California Education Code relating to teacher certification (Ryan Act) and teacher evaluation (Stull Act) as well as a list of conference participants are included. (Author/RC)

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CONFERENCE SUMMARY

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COMMISSION FOR TEACHER PREPARATION AND LICENSING

STATE OF CALIFORNIA

SACRAMENTO, 1973

TM005 947

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SECTION I

Introduction

There has been a great deal of national research over the past decade about the effect of a wide variety of school service variables and their relationship to improved pupil performance. Research results indicate that the number and quality of the professional staff, particularly teachers, are key variables. Such evidence undoubtedly contributed to the eventual development and enactment of two law by the California State Legislature during the last two years. California is the only state, thus far, to have passed effective legislation making a commission of laymen and educators responsible for regulating teacher education and licensing.[1] In addition, California has enacted a law requiring the evaluation of teachers' performance.[2] These two laws provide an opportunity for the development of clearly defined entry level standards for beginning teachers performance and for the continuing evaluation of certificated employees.

The first of these two laws is known as the Teacher Preparation and Licensing Law of 1970. The law provides for the establishment of an autonomous commission of 15 members: Six persons on the commission must be certificated personnel from the public schools; four must be from accredited public or private colleges or universities in California; five, representing the law public, are school board members or private citizens. Among the responsibilities delegated to the commission are:

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[1] Teacher Preparation and Licensing Law of 1970, Section 13114. (See Appendix A.)

[2] The Stull Act (Statutes of 1971) (See especially Article 5.5, Appendix B.)

1. the formulation of performance standards for general teaching and education specialities;

2. the development of alternative ways to demonstrate qualifications for licensing which will allow for individual differences in candidates and still protect against incompetence;

3. the development of objective, independently verifiable standards of measurement on evaluation of teacher competence.

The second law, passed in 1971, is commonly referred to as the Stull Act of 1971. Article 5.5 of the Stull Act is entitled "Evaluation and Assessment of Performance of Certificated Employees." The law prescribes a system of objective evaluation guidelines which will be uniform for all school districts in California. The guidelines are to include the following elements:[3]

1. standards of expected student progress in each area of study and of techniques for the assessment of that progress;

2. assessment of certificated personnel competence as it relates to the established standards; and

3. procedures and techniques for ascertaining that certificated personnel are maintaining proper control and preserving a suitable learning environment.

The two laws require that standards be established for both new and experienced teachers to provide for teacher accountability. To effectively establish accountability, it is clear to the Commission for Teacher Preparation and Licensing that further research is required to identify the necessary entry level skills of beginning teachers. Once the skills

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[3] Op. Cit.

necessary for successful teaching have been identified, they can be used to improve the quality of teacher preparation programs. The requirements for specialist instruction (advanced preparation), credentials, and an array of subprofessional classroom positions can be determined based on the skills necessary for teachers.

Statement of the Problem

The state currently licenses teachers based on completion of a set of college courses and student teaching. There is growing interest, however, in attempting to reduce the inferential leap inherent in the assumption that coursework capped off by a practicum produces a person ready to be licensed as a teacher.

It is, therefore, proposed that a baseline list of entry level skills be developed. This would enable currently existing teacher preparation programs to become much more specific. For example, if a teacher candidate is able to diagnose a child's reading problem correctly, and this act is observed by a college supervisor of a school district cooperating teacher, then one can be reasonably certain the candidate understands the process of diagnosing reading problems. The normal procedure of certifying "knowledge" about reading diagnosis via a written test in the college classroom has thus been supplemented by an actual or simulated performance by the candidate, and one can safely say the inferential leap about the candidate's ability to diagnose a reading problem has been substantially reduced.

The research problem is to identify those teacher competencies which contribute most to elementary pupils' cognitive and affective achievement.

If this can be done, the information will be used to:

1. Develop techniques for the evaluation and assessment of the performance of certificated teaching personnel;

2. Examine relationships between teacher behavior and pupil growth at grades two through six and to use this information as a basis for modifying teacher preparation requirements;

3. Make the teacher performance expectations of community-school districts and teacher preparation institutions more congruent with each other and with demonstrated relationships to pupil growth;

4. Identify those teaching competencies related to teacher verbal ability which have resulted in teacher verbal ability emerging as a consistent predictor of pupil achievement.

5. Use the above to define baseline entry level skills for:

   a. beginning teacher performance;

   b. specialist teacher performance (baseline plus);

   c. subprofessional (career ladder) performance (baseline minus);

   d. evaluation and assessment of the performance of experienced certificated employees throughout their careers.

Activities and Methodology

A Preliminary Evaluation Study was organized in three phases to accomplish the following:

1. Identify the community-school district goals of those districts cooperating in the study;

2. Identify the instructional objectives of those teacher preparation institutions which send teachers into that community-school district;

3. Collect descriptive data on candidates preparing to enter teaching for the first time, including verbal abilities and subject area knowledge tests. Observe each beginning teacher on at least three occasions using a specially developed observation instrument. Reaffirm the reliability of the observation instrument by observing a second set of teachers.

4. Isolate those competencies and skills demonstrated by teachers who are selected as superior teachers by their peers and by other school service personnel. This group will be given a verbal ability test. In addition, they will be observed using the specially developed observation instrument.

5. Examine any significant variance between high and low pupil achievement. Examine the demonstrated competencies of the teachers who taught them. Pupils in both the new and the experienced teacher's classes will be tested several times each year on schievement in reading. Both cognitive and affective objectives will be developed from community-school district Educational goals. These identified institutional objectives will be further tested and observed.

6. Establish a list of entry level skills for beginning teacher candidates.

7. Compare and refine the entry list of skills based on the expectations and goals of school district and teacher preparation institutions.

8. Compare the entry list of skills against observed competencies of expert teachers selected by the peer nomination process.

9. Evaluate the procedure by pretest and post-test achievement examinations of pupils of beginning and expert teachers.

Phase I involved the basic planning and developmental activities.

Phases II and III involved additional testing and interpretation of the independent variables isolated in Phase I.

Outline of the Tasks Involving Phase I

Phase I was designed to identify teacher variables through systematic investigation of the stated objectives of school district and teacher preparation institutions and an in-depth analysis of the literature. Top priority variables were to be isolated. Then existing measurements were to be adopted and new instruments were to be developed, field tested, and revised. Student teachers from cooperating teacher training institutions would then be sampled and their background knowledge and individual characteristics identified. Those student teachers in the sample who took jobs in urban and rural schools in California would then be included in the study sample during the following two years.

Task I DEVELOP PRELIMINARY RESEARCH DESIGN.

1. Secure outside expertise to improve the quality of the research design.

2. Determine procedure for selecting teacher sample.

Task II PREPARE PERT CHART OF REMAINING PHASE I ACTIVITIES

1. PERT Chart to indicate activities within tasks and their appropriate interdependences.

2. Use PERT Chart for daily project management to assure that all development, production, and delivery requirements are met.

Task III REVIEW OF THE LITERATURE

1. Extract from literature those articles which relate directly to teacher competencies and pupil achievement.

Task IV DEVELOP EDUCATIONAL GOALS WITH CLIENT DISTRICT.

1. Identify educational goals in those school district that have committed positions for new teachers for 1973 - 1974.

2. Use a "forced-choice" process in order to rank these goals.

Task V IDENTIFY THE MINIMUM OBJECTIVES OF PARTICIPATING INSTITUTIONS FOR CANDIDATES TO RECEIVE A RECOMMENDATION FOR CERTIFICATION.

1. Ask institutions to develop a list of objectives expected of their candidates.

Task VI DEVELOP COMPETENCIES FROM COMMUNITY DISTRICT GOALS AND INSTITUTIONAL OBJECTIVES.

1. Categorize institutional objectives under community-school district goals to determined the degree of congruency.

2. When institutional objectives do not include the higher ranking community-school district goals, the institutions would be expected to develop them.

3. Measurable competencies which are consistent with the goals and objectives would be identified.

4. Competencies abstracted from related research (e.g. teacher verbal ability) would be required on the list of priorities.

5. A select group of teacher trainers and school district personnel would review refine, and establish a set of priorities for the list of identified competencies.

6. Written tests and observational instruments to measure the competencies would be adopted, adapted, or develped, as described in Task VII.

Task VII THE SELECTION OF MEASUREMENT

1. A test will be developed to measure those competencies rated important by community-school districts.

2. A test will be developed to measure those objectives and skills considered important to teaching candidates by teacher preparation instutions.

3. A verbal ability test will be developed to be administered to beginning and experienced teachers.

4. A multiple subject test, or single subject test of teacher knowledge in their area of specialization will be developed to be administered to beginning teachers.

5. A test of knowledge of the processes used to teach reading at the elementary level will be developed to be administered to beginning teachers.

6. An instrument to gather pertinent demographic data such as experience, education, sex, race, age, etc., will be developed to be administrated to beginning and experienced teachers.

7. Instruments to measure cognitive and affective ofjectives will be developed to be administered to pupils.

8. A classroom observation instrument will be developed to record teacher behavior within categories. Included within this instrument will be behaviors related to teacher verbal ability.

> NOTE: The development of measures of teacher behavior and its application to techniques in the classroom is of particular importance. Thus, the diagnosis and selection of alternate paths for pupil learning and the evaluation of pupil performance goals warrants additional emphasis. Although paper and pencil test can be utilized, a special effort to develop skills will be included. In-depth case studies and the analysis of individual videotapes for micro-teaching will be utilized. Extensive classroom observation would be required to assess teacher behavior.

Task VIII PRE TEST SPECIALLY DESIGNED MEASUREMENT INSTRUMENTS.

1. Measurement instruments would be pre-tested by discussion with potential respondents and pilot testing under quasi-experimental conditions, as appropriate.

2. Instruments will be pre-tested and modified as necessary to assure an acceptable final product.

3. The pre-test for classroom observation instruments may involved classroom or video-taped simulation situations.

Task IX DEVELOP DATA ANALYSIS PLANS

1. Consideration will be given to various statistical techniques for data analysis.

2. Regression analysis may be employed to determine the degree to which student performance can be predicted from teacher training, characteristics or behavior. Analysis of variance (or multi-variant analysis of variance) may be used to determine differences between beginning and experienced teachers.

3. Planned data analysis will determine:

a. Characteristics of both beginning and experienced teachers which significantly affect student achievement,

b. those teachers whose pupils, as a group, achieve the most,

c. behaviors of teachers whose pupils show the greatest gains,

d. relationships between the identified expectations regarding effective teacher behavior and the measured success of beginning teachers in the classroom,

e. relationships between the identified expectations regarding effective teacher behavior and the knowledge learned and utilized in the classroom by beginning teachers,

f. the degree to which teachers maintain into the second year of teaching behaviors which have been determined to be related to student achievement.

Task X DATA SYSTEM DESIGN AND DEVELOPMENT

1. A computer data system will be developed to facilitate data storage, editing, retrieval, and analysis.

2. This task will entail planning, develpment, and systems design for all computer-related aspects of Task XII, and preliminary systems design and development activities that would be continued in Phase III.

3. Procedure for tallying, coding, editing data will be developed in conjunction with a master data file format. Computer programs will also be selected or written and debugged, as necessary.

4. The following minimum objectives will be met for Task X.

   a. Ease of maintenance and updating of the data base,

   b. ability to restructure the data base, if necessary,

   c. flexibility with respect to changes in editing requirements,

   d. responsiveness to queries with a minimum of ad hoc programming,

   e. Provision of flexible procedures and software for planned and unexpected analyses.

5. Although the computer software system cannot be specified until Task X is underway, it is anticipated that one system of compatible software would be developed that would encompass data conversions, data editing, error resolution, data retrieval, and analysis. Software necessary to convert and date would probably have to be written, but available programs can be used or adapted for file building, updating, data retrieval, and analysis.

Task XI SELECT SAMPLE OF TEACHERS

1. Select a sufficient number of teacher candidates to provide an adequate number of teachers in each cell in the sampling design after exclusion of those teachers not obtaining jobs in the targeted California School System.

2. Assess for each teacher and school those critical variables not

included in the sampling design, such as verbal ability and socio-economic status. These variables will be included in the data for Phase II and Phase III data analysis.

Task XII COLLECT AND PROCESS BASELINE DATA

1. Collect any baseline data that would have to obtained prior to the start of Phase II. If the student teacher sampling involves stratification on certain teacher characteristics, this information will be collected from records and/or test data during Task II.

2. Additional information on teacher characteristics and background will be collected after the sample is drawn to provide base line data for measuring change and for drawing comparable samples of experienced teachers for Task XIV.

3. Data would permit comparison of beginning teachers with student teachers not placed in the target population of California schools. Differences between these samples may help to identify criteria which school districts apply, explicitly or implicitly, in selecting future beginning teachers.

Task XIII COORDINATE WITH SCHOOLS AND SELECT SAMPLE OF EXPERIENCED TEACHERS.

1. Contact superintendent of employing school districts during the last six months of Phase I.

2. Include the following incentives for cooperation:

   a. Developed objectives and student achievement indicators to assist participating schools in future evaluation of all certified personnel.

   b. Participation by teachers and administrators in the project would constitute a form of in-service training in identifying critical teacher competencies.

c. Participation would be acknowledge in published reports.

Task XIV INTERIM OUTSIDE EVALUATION/AUDIT

1. Outside expert consultants would provide technical advice at key-points in the project.

2. Evaluative procedures, either an audit or general procedural evaluation of all phases of the project, would be conducted by an outside consultant or subcontractor independent of the Commission and other sub-contractors. The purpose of the audit would be to verify that the contractor and subcontractor had fulfilled their commitment.

Task XV PREPARE INTERIM REPORT ON PHASE I ACTIVITIES

1. An Interim Report would summarize Phase I activities.

2. This report would include sufficient information for an evaluation of the research design, and the tentative data analysis plans, and an assessment of the measurement instruments.

3. The Report would present evidence regarding the cooperation obtained from school districts and teacher groups and indicate the adequacy of the selected teacher sample interims of the research design.

Planning and Development Activities for Phase II and III

In Phases II and III teacher and student variables will be assessed in cooperating school districts. Beginning teachers will be compared with teachers having several years of successful experience, and with teachers identified through a forced choice nomination of both teacher peers and other school service personnel. The experienced teachers will be selected at the same school, or district, in which the beginning teachers identified in Phase II will be assessed over a two-year period. For beginning teachers in Phase III, the assessment would encompass one year. Pupil gains would be related to

competencies of beginning teachers and this data will be compared to the data generalized from the experienced teacher group.

Population of Phase II

Approximately 400 teachers would be included in the Phase II assessment, half beginning teachers, and half experienced teachers. With a teacher-pupil ratio of approximately 30 to 1, it is estimated that 12,000 pupils will participate in Phase II. It is hoped that classes would provide representation from such varied teaching settings as: urban and suburban; rural including migrant; monolingual bilingual; disadvantaged; representative racial groups; and varying economic backgrounds.

Time Periods for Phase II and III

Phase II covers the 1973 - 1974 period of the project, the first year of the testing period. Phase III covers the 1974 - 1975 period, the second year of the testing period. The individual Tasks for Phase II and Phase III cannot be determined in detail until planning in Phase I is underway. The following timetable of Tasks is anticipated for Phase II and III.

Timetable for Phase II and Phase III

Tasks I — Prepare PERT Chart of the activities for each Phase. (This task is similar to and would extend the PERT Chart prepared in Phase I, Task II)

Task II — Continue data system design and development. (Data system design and development initiated in Task X of Phase I would be continued and expanded as necessary for Phase II and Phase III.)

Task III — Orient school administrators, principals, and professional teacher groups.

Task IV — Prepare for fall 1973 data.

Task V — Collect and edit fall 1973 data.

Task VI — Prepare for spring 1974 data collection.

Task VII Collect and edit spring 1974 data.

Task VIII Analyze 1973 - 1974 data.

Task IX Review 1973 - 1974 data and prepare Interim Report.

Task X Prepare Interim Evaluation/Audit.

Task XI Modify assessment and analysis plans.

Task XII Modify measurement instruments or techniques as required.

Task XIII - Task XVII Task XIIII - XVII will be similar to Tasks IV - VIII above, but for the 1974 - 1975 school year.

Task XVIII - Final Report.

Tasks XIX - Final evaluation/audit.

SECTION II

Introduction

In October 1972 the Commission for Teacher Preparation and Licensing was asked by the Office of Economic Opportunity to hold a conference involving educational researchers, teacher educators, educational administrators, and others who might be affect by the study, to review the entire existing design of the study prior to final submission of a document to OEO for further funding.

This conference was held on February 20, 21 and 22, 1973 in Sacramento, California. Educational consultants to the conference included:

Dr. Walter Borg, Utah State University

Dr. Fred Braun, University of Hawaii

Dr. Robert Bush, Stanford Research and Development Center

Dr. Lee Cronbach, Stanford University

Dr. William Fisher, Superintendent of Schools, Orinda

Dr. Robert Gagne, Center-Behavioral Sciences, Stanford

Dr. John Goodlad, Dean, Graduate School of Education, U.C.L.A.

Dr. Herold C Hunt, Harvard University

Dr. Charles Johnson, University of California, Berkeley

Dr. Hail Marderosian, University of Massachusetts

Dr. Barak Rosenshine, University of Illinois

Dr. Nick Silvaroli, Arizona State University

Dr. Henry Levin, Stanford University

Dr. Marcus Foster, Superintendent, Oakland City Unified Schools

For a complete list of conference attendees, see Appendix C.

CONFERENCE RESPONSIBILITY

The Commission assigned the primary responsibility for the conference to the Executive Secretary of the Commission, Dr. George Gustafson. He was emplowered to secure advisory and consulting service to plan the conference. Further, with the advice and consent of the Commission he was empowered to secure the best available consultants to ensure the achievement of the conference objectives.

CONFERENCE OVERVIEW

Conference consultants were asked to respond to a set of questions concerning the proposed study design. A detailed analysis of the responses from the consultants a need to synthesize the responses in a manner congruent with the Design Conference work schedule. Two key areas of concern emerged from the analysis, namely Pupil Performance and Teacher Performance.

Further, delineation of key elements of concern to the consultants indicated that socio-economic factors, resources (both human and material), and the instructional organization related more directly to Pupil Performan, while overall school environment, stated school district expectations, teacher verbal ability, communication skills, professional training, academic background and socio-economic factors related more directly to teacher performance.

An overview of the critical issues was prepared prior to the conference, to avoid the possibility of prejudicing the conference outcomes with a detailing of the variables in the above listed elements of concern.

This approach minimized contamination of the elements and issues to be considered at the conference and maximized the potential for comprehensive consideration of all aspects of teacher performance. Further, this approach permitted the consultants to explore many avenues worthy of consideration re-

lated to teacher preparation and licensing. Finally, this procedure optimized the provision to the Commission of a broad spectrum of relevant suggestions from the consultants to improve both the project design and the resulting study.

However, the consultants did consider certain issues which were of critical importance to the Commission. These issues were:

Pupil Performance:

1. What socio-economic data should be gathered on Pupils? Why?
2. What generic performance measures should be utilized; normative, criterion reference or both?
3. Should the study be limited to one or more types of instructional organization, e.g. self-contained classroom team teaching situations, large groups, small groups, tutorial or others?

Teacher Performance:

1. What verbal and communicative skills are important in a learning situation which inspires, fosters and achieves maximum pupil achievement?
2. What, if any, specific academic background, including subjects studied and/or grades attained, impacts negatively or positively on demonstrated teacher competence?
3. What socio-economic factors, if any, impact negatively or positively on demonstrated teacher competency?
4. What specific expectations do Teacher Preparation Institutions have in relation to teaching competency?
5. What specific exit skills should Teacher Preparation Institutions require of graduates?
6. How can significant behavioral characteristics of teachers whose students achieve a high degree performance be documented?
7. How can criteria regarding behavioral characteristics be established?
8. What effect does the organizational structure of a school have on teacher performance?
9. What impact do saoary, fring benefits, cost per pupil and other systemic variables have on teacher performance?
10. What impact do stated school district expectations have on teacher performance?

11. What impact does the degree of congruence between the stated expectations and the actual operational environment have on teacher performance?

SECTION III

CONFERENCE FINDINGS

The conference participants were divided into four working groups or committee. Each committee met individually to consider the issues of major concern to the Commission. Each committee then met with each of the other committees to summarize and further review their discussions. A summary report, prepared by each committee, indicates the thinking of the committee regarding the proposed design and the major issues of the confidence.

The four committees were designated; teacher performance committee, pupil performance committee, school district expectations of pupil performance assessment committee, and teacher preparation institutions' expectations.

Final Conference Report from TEACHER PERFORMANCE COMMITTEE

The probability of complete success in identifying, measuring, and evaluating teacher behaviors was questioned by several members of the teacher performance phase committee at the outset of the meeting. Nevertheless, the committee concluded that the present system of teacher certification is ineffective and counterproductive to the educational needs of California and the nation and that a study leading to a more equitable system is both justified and needed. For example, the process of codification of effective teacher behaviors would have national implications, since it would advance the knowledge of teacher performance. It may also provide a potential to increase student achievement. Even minimal success would justify the time, talent, and revenue to research an alternative approach to the present system. The committee also felt that the study is justified for it would provide the vehicle to correlate and synthesize other bodies of information related to

teacher behavior and student achievement which heretofore have had a limited impact on the training and licensing of teachers. In addition, the study is needed to comply with the mandate of the Ryan Act.

The teacher performance phase committee discussed other areas of the study. The general areas of discussion are outlined below.

1. Should specific standards be imposed upon the poor, i.e., should black, students, for example be expected to achieve skills in reading if their general educational level hasn't prepared them for it?

2. Should the educational goals of the blacks be adjusted to the specific talents individuals demonstrate? As one member put it, "should we expect high jumpers out of runners?"

3. There was discussion pursuent to a suggestion that there should be a system of in-service training for teachers. Teacher interns would be assigned to particularly effective teachers to work with and be tutored by them for a period of time; this procedure would be as a prerequisite for licensing similar to the system used by the medical profession.

<u>Some Specific Areas of Concern Were:</u>

1. How should the study be sequenced so that knowledge gained in the preliminary stages could be most effectively used?

2. What combination of research methodology is likely to provide the best results?

3. What observational instruments can best measure teacher diagnostic skills and communication abilities since both were considered important to the study?

4. Where and under what conditions should information be gathered to provide for the greatest probability of securing the goals desired?

In response to the original proposal and the specific areas of concern by the members of the teacher performance phase, eight basic observations were made.

1. One of the intents in the proposed study was to isolate and identify positive teacher behaviors. Since it was believed that this information is more likely to be found by observing experienced rather than inesperienced teachers, initial emphasis should be placed

on observing the experienced teachers.

2. Environmental and other factors affecting student achievement in low income areas may be uniquely different than those in other areas. Therefore, research should attempt to compare and contrast student achievement data in low income schools with schools in other areas.

3. Broad based data should be collected on all factors related to teacher behavior. Therefore, there should be a reduction in the the number of teachers to be observed, as proposed in the original design, and an extension on the amount of observational and/or experimental data collected on each.

4. In the interest of reducing redundancy and discovering the best available means of isolating possible components which may be observable in teacher behavior, an examination correlation and synthesis of appropriate literature should be conducted early in the design.

5. Although a compilation of significant factors which predictably lead to student achievement in reading may be the desired objective, it was recommended that initially a broader array of teacher behaviors be examined. More than one and not more than three areas should be studied. Three possible areas for examination are: reading, mathematics, and communication arts.

6. Districts selected for this design should be drawn from a random sampling of those districts which provide for a reasonable chance of success. Some attempt should be made to codify those districts where positive teacher behaviors seem to be present. Random sampling from this group would then be conducted to gather data.

7. To insure accuracy and to provide for possible re-examination of data, video and audio tapes should be used.

8. One focus of the study should be to attempt to identify precisely those components of communication skills, if any, which affect positively teacher behavior and student achievements.

It was the judgment of the members of the teacher performance phase that the original design has merit. To maximize the effectiveness and to minimize the variables in the design, a concurrent proposal was offered to phase it in.

PHASE I INSTRUCTIONAL AND ENVIRONMENTAL VARIABLES AFFECTING STUDENT ACHIEVEMENTS

There should be a concentrated attempt to examine all possible variables affecting student achievement. Every conceivable system of analysis

should be employed, including: an examination, correlation and synthesis of the literature in the field, experimental and operational studies; systems for collecting data on the socio-economic status of students and teachers; administrators' attitudes and values; evaluation studies of mini-courses; larger institutional training programs; and commonly accepted principle in educational texts.

The initial study should be concentrated in the tough areas where real problems exist. Teams of evaluators equipped with video and audio tapes should spend a significant period of time in these regions. Attempts should be made to isolate those instances where positive teacher behavior and high student achievement seem to be present. Studies should be conducted to determine the variables and causal connections to positive student achievements.

PHASE II -TEACHER TRAINING

The design for Phase II is contingent upon the outcome of Phase I. If it can be determined that certain environmental or teacher behavior components affect student achievements, then teacher training institutions would be encouraged, possibly through accredidation standards, to incorporate these findings into their training units. New teachers or retrained old teachers would be observed to determine if they have developed the teacher behavior characteristics desired.

PHASE III - THE LINKING OF TEACHER BEHAVIORS TO STUDENT ACHIEVEMENT CRITERIONS

Measurement studies would be conducted to determine if newly acquired teacher behaviors affect student achievements.

PHASE IV - SETTING AND APPLICATION OF LICENSING STANDARDS

Findings from the three phases would then be the basis for fashioning standards for licensing teachers.

Final Conference Report from PUPIL PROGRESS COMMITTEE

The group which focused upon the pupil progress phase of the proposed study concentrated its efforts upon a critical analysis of the preliminary design and the identification of general pupil performance measurements which could serve as a guide in the development of more specific assessment materials.

Section I - Study Design

The pupil progress group has attempted to incorporate many of the suggestions which were proposed by the other three conference phase groups; we have, however, used as our frame of reference the relationship of the proposals to pupil progress as the basis for the following recommended design.

The pupil progress group believes that an undertaking of this size will require more than the twenty-four months that was suggested in the original proposal. We also believe that this project is a beginning for a continuous evaluation system that will provide the Commission with information upon which the licensing procedures can remain dynamic.

We propose six phases to our design which incorporate and expand the suggestions proposed by the other three conference phase groups. The pupil progress group has limited the dependent variables in the design to reading performance, as many of the behaviors used in teaching reading do replicate themselves in other relationships with children.

The terminology which identifies each of the six phases has been taken from the proposal suggested by conference phase group four which employs the following terms; discrepancy analysis, casual analysis; identification of variable which most strongly affects reading performance, program modification, validation of program, and establishment of licensing standards.

We propose that in the discrepancy analysis phase that a thorough review of the literature be made, and that the instructional and environmental

variables which affect student achievement be identified and categorized. One the variables are identified, a survey of available instruments for assessing the relationship of these variables to student achievement should be pursued. The instruments should assess teacher behavior in relation to reading performance. The assessment procedure should include a pre and post measurement of students.

The teacher population in the study should include both new and experienced teachers and the pupil population should contain an age range of children from primary to grade six. The student population should also contain a large segment of low income group children but children from other income groups should also be adequately represented.

Once the assessment procedures have been established and administrated, the causal analysis phase of the design should begin. This phase should contain a factorial design which will analyze as many relationship as possible. The analysis of instructional variables should place emphasis upon teacher behavior and reading approach (e.g. ITA, Basal Readers, Phonics, etc.). Student performance should include an analysis of the data dealing with reading comprehension, application of reading, and attitudes towards reading.

The causal analysis will identify those teaching behaviors which most strongly affect reading performance. This list of teaching behaviors should be given to several teacher training institutions who will in turn establish a program that will develop these skills in their graduates.

Validation of the new teacher training program will necessitate a one year field study. The field study will be a replication of the design, using the teacher graduates completing the modified teacher training program and a control group. The results of the second study will provide the Commission

with data for making recommendations and modifications in teacher licensing standards.

Section II - Pupil Performance Assessment

The following comments and recommendations are made concerning the measurement of pupil performance and progress as a part of the proposed study:

A. Importance:

However comprehensive or elegant the design of a study of teacher competencies may turn out to be the measures of pupil peformance which are chosen and used will be critical to the success of the study. These measures are seen, after all, as the criteria in terms of which the validity of various teacher competencies is to be assessed. They must therefore be convincing to all concerned as indicators of what pupils have learned.

B. Criterion-based Measures

It is our strong recommendation that the instruments employed to assess pupil performance be criterion based, and not norm based. That is to say, these measures should be inherently credible as direct indicators of what pupils are capable of doing as a result of instruction. For purposes of this study, there is no reason that scores on performance measures be related to norms, whether national norms or local norms. In fact, there are probably good reasons not to present the data in terms of norms, in order to avoid entirely the possibility of school or district comparisons.

C. District Expectations

Once student performance objectives have been tentatively identified, district personnel should be given the opportunity of reviewing them,

and of commenting upon any gross discrepancies that may appear between district expectations and study plans for these dimensions of student performance. Participating districts should, of course, agree that the objectives do represent their expectations; if not, they should decide not to participate. To be sure, districts may have additional objectives for pupil performance, and it should be understood that this fact will not interfere with the prosecution of the study.

D. Suggested Pupil Performances

We suggest the following dimensions of pupil performance relevant to the area of reading activity; (1) Reading performance. (2) Positive attitude toward reading, and (3) Application of reading. These are further sub-divided and defined as follows:

a. Reading performance should include the categories of reading comprehension and word decoding.

Comprehension is defined as the child's ability to understand the meaning of expository and fictional material, using words generally considered to be within his experience and in his oral vocabulary. Comprehension includes the understanding of printed materials in other areas of the curriculum.

Word decoding is defined as the ability to pronounce aloud printed words, familiar or unfamiliar.

b. Positive attitude toward reading might be measured in a number of ways. The following are suggested as indicators:

1. When given the opportunity to choose activities, the child voluntarily selects a book for reading (e.g., when entering class in the morning, after recess, during "free time," etc.)

2. Children spontaneously join one another or form into small groups to read to one another to share illustrations or to help one another with vocabulary.
3. Children voluntarily share information, or express feelings or ideas with others about material which they have read.
4. Children bring reading materials to share with others in class.
5. Children choose reading as a way of getting information (as opposed to listening and/or other means).

c. Application or reading provides a measure of the generalizable use of reading skills. It is defined as the ability to use the meaning of printed material to accomplish a variety of purposeful activities. Suggested possibilities for measurement are to determine whether the child can follow directions to assemble a boy, successfully play a game after reading the rules, and use labels, captions and charts as he works in an activity.
The assertion is made that data on Application and Attitude may be more adequately collected by means other than paper and pencil instruments. While tradionally we have been primarily concerned with reading comprehension performance, we need to give at least equal emphasis to the development of positive attitudes and the ability to apply reading competence in practical ways.

Final Conference Report from SCHOOL DISTRICT EXPECTATIONS OF PUPIL PERFORMANCE ASSESSMENT COMMITTEE

It was recognized at the outset that the prescribed frame of reference for responding to the series of proposed critical issues would require a disciplined effort to de-emphasize but not exclude other points of view.

This group was of the opinion that the study should focus primarily on the children of the poor. Primarily does not mean exclusively nor does it prescribe a fixed quantitative amount. It recognized that children may only be seen in a spectrum of other children. This requires then, a reasonable inclusion of other than poor children, both for perspective and comparison. Without this, cause effect relationships which discriminate between teacher behaviors resulting in performance of various pupil typologies are unlikely to be demonstrated.

Since socio-economic status will be a major consideration, attention must also be devoted to bilingual, multilingual, and cross-cultural considerations. The father's occupation and mother's educational level were considered to be significant. If these factors are to be considered realistically, the study must focus on the "the child" and the source of data must include data secured in the home rather than arbitrary assignment to a statistically established group.

In this way data about functional language, income and education, cultural identity and affiliation, extra and pre-school advantages should be secured.

Measurement of pupil performance for the purpose of establishing required teacher competencies should preferentially rely on criterion reference measures. This recommendation should not limit operation of the study implementor or the right of the Commission to report to the public.

The material by Tyler, Ryans, Coleman, and Jenks are believed to be valued resources.

The measurement instrument selection procedure should include participation by relevant representatives of the local unit.

The group strongly urges matching or equating for class size, human, physical, and instructional resources and organizational patterns and regulations.

The methods and samples used must be strongly supportive of the credential criteria requirement setting responsibility of the Commission.

Teachers should exhibit the skills required to communicate effectively with children and community members. These skills must include: those required to establish the teacher as a model communicator in standard English, diagnostician, and prescriber, and applicator of required learning experiences.

A teacher's academic background of one kins was not considered to be more valuable than those of another's, but liking the elements to be taught both as a child and adult is considered significant. Academic background in remedial reading and areas of general support of remedial reading is considered to be advantageous.

The school district expects teachers to possess experiences and behaviors which enhance empathy toward, understanding of, and communication with parents and other members of the community who represent the spectrum of adults among whom the pupils exist.

It is also expected that the teacher preparation institution will provide personnel <u>trained</u> to a degree of successful practive of those behaviors requisite to the production of desired pupil performance.

The district will only accept documented observation of the required teacher behaviors. Evidence of completion of courses no longer has credibility.

It is recommended that these behaviors be documented on the basis of observations, and of training experiences in programs which cover a period of five years of teacher preparation. These programs should produce confident, competetent, caring teachers prepared for the successful practive of the teaching profession.

Competence is considered to include those behaviors consistent with successful pupil performance in the beginning stages of reading, and developmental reading. Possession of technical behaviors in remedial learning, listening skills, and management of learning environments was considered to be essential to the production of desured pupil performance. To these ends, data should be collected which describes the degree of teacher empathy, knowledge of word attack skills, techniques of diagnosis and prescription, functional levels of cognitive activity and interpersonal skills. The teacher preparation institutions should adequately screen and counsel and provide a background which will promote the continued maintenance of health and vigor of their teacher trainees. The teacher preparation institutions must provide the district with a documented list of additional required professional behaviors to be provided through in-service programs. It must be re-emphasized that documented observations of teacher behaviors must be field based. Screening and selection might include considerations of the degree to which prospective teachers remember their own childhood experiences, their capacity for humor, and their persuasive ability. It is considered essential that there be cooperative programs between the district and teacher preparation institution which promote the acquisition of additional desirable teacher behaviors or the refinement of those possessed.

The study of levels of school support of teacher behaviors should penetrate below the level of statistical assignment of dollar resources to

the level of available products and services.

The school district expects those behaviors in beginning teachers which are basic to successful pupil performance. The school district recognizes its responsibility to provide, in cooperation with the teacher training institutions, those experienced teacher behaviors which may be missing and to refine those in need of further development.

Final Conference Report from TEACHER PREPARATION INSTITUTIONS' EXPECTATIONS COMMITTEE

It was agreed by all participants that the Commission had a responsibility to carry out the mandates of the Ryan Act, and that the Beginning Teacher Evaluation Study should give it a place to start by defining what competencies teacher preparation institutions ought to use in preparing teachers to effectively instruct elementary children in reading.

Institutional representatives on this committee object to that portion of the study that called for identifying teacher preparation institutions' expectations of their students in advance on the basis that what institutions are currently doing in this regard is irrelevant to the study and could only lead to a list of discrepancies, proving little. The consensus agreement of the group was that "advance expectations" should be eliminated from the study.

Having dispensed with the "advance expectations" portion of the study, participants attempted to re-design the study, borrowing freedly the ideas and inputs gained from the meetings held with other committees. The following is an abstract of the recommended steps presented on the ensuing pages. The consultants from the teacher performance committee participated generously in a special session with representatives of this committee in the development of this document.

Abstract

1. Eliminate the part of the study calling for institutional expectancies.
2. Select an "N" of new and experienced teachers.
3. Collect, for the pupils, all pertinent SES, environmental, and performance data.

4. Analyze the causal factors existent in those classes where general high achievement was reported, identifying in those classes the high SES achievers, and the low SES achievers.
   Also analyze the causal factors existent in those classes where general low achievement was reported, identifying in those classes high SES achievers, and the low SES achievers.
5. Sift out a list of causal factors that seem to be present in the behavior of the successful teachers, and report them to teacher preparatory institutions.
6. Expect those teacher preparation institutions using the study's competencies to establish an evaluation-feedback-corrective process.
7. Expect those teacher preparation institutions not using the reported competencies, to establish a list of their own, with rationale and also include an evaluation-feedback-corrective process.
8. Apply the results of the study to the Commission's two major areas of concern--accreditation and licensing.

Introduction

This proposed comprehensive study of teaching is an important undertaking. Its design draws upon the best resources, knowledge and skills available. But miracles from it must not be expected. It would be unrealistic to expect this study to provide a clear unequivocal factual base for a radically new and different set of licensing standards. Instant and significant results are unlikely. We can realistically expect some modest contribution toward establishing better standards than we now have. There is undeniably a widespread and strong dissatisfaction with current standards for licensing teachers, and there is a rising emphasis to attempt to define such standards in behavioral terms--while experience to date suggests that progress toward this worthwhile goal will be difficult and slow, we have during the past made some progress.

It is important to continue the search so that we will have something more than tradition and special interest as a base for our standards.

The Concept of the Design

This proposal describes a research and development strategy which may be expected to have two major consequences: (1) the plan described here will provide information relevant to be not necessarily definitive for establishing criteria for the licensing of teachers; (2) the plan will stimulate modification of and innovations in teacher training programs directed to improving teacher competence.

This plan combines a variety of research techniques and strategies. Its purpose is to identify those competencies of teachers which affect significant changes in students, especially in important areas of instruction, and specifically, in helping students to learn to read.

Step I -- Discrepancy Analysis. Locating Schools and Teachers Demonstrably Effective in Producing Student Learning.

The first tasks is to identify schools which are remarkably effective in influencing students' learning irrespective of where their students are when they enter a phase of their education. To identify these schools we propose the following procedures: Using the test data gathered regularly in California, perform a regression analysis in which scores at a later grade are regressed on scores at an earlier grade. This analysis can be portrayed in Figure 2. Schools which fall above the regression line (solid line in Figure 2) are schools in which the mean or average performance of students in that school exceed the statistical expectations for their performance in comparison to other schools. School A's students (see Figure 2) schored on the average the same as School B's students at the first testing. At the second testing, however, School A's students were

performing significantly better than School B/s students. School A should be studied to determine what it is doing to influence student learning.

The analysis performed at this step identifies such schools. We also recommend that school districts involved in this study nominate schools which they think are affecting student learning significantly.

The schools nominated together with the schools identified in the regression analysis are selected to identify teachers within them whose students are achieving significantly. These teachers are identified by the statistical and nomination procedures described above.

Step 2 -- Identifying Factors Affecting Student Performance.

(2) In the second step, several procedures are used to identify factors influencing student performance. First, a statistical analysis is performed to partial out and to study the interactions among those factors other than teacher performance which may be influencing student achievement.

Two lines of investigation are proposed to identify these factors. Before either of these procedures is used, however, it is necessary to conceptualize those teacher behaviors likely, as inferred from previous research and experience, to influence student learning. We recommend that a task force be created to develop this conceptualization.

This conceptualization is then used to analyze those components of teaching skill which differentiate more effective teachers from those who are achieving expected or "average" results. A second statistical analysis is made to determine what other factors, such as those associated with the home and community of the students, the characteristics of classes, and staff, the organizational climate of the school and its programs,

Figure 1
PROBLEM SOLVING STRATEGY

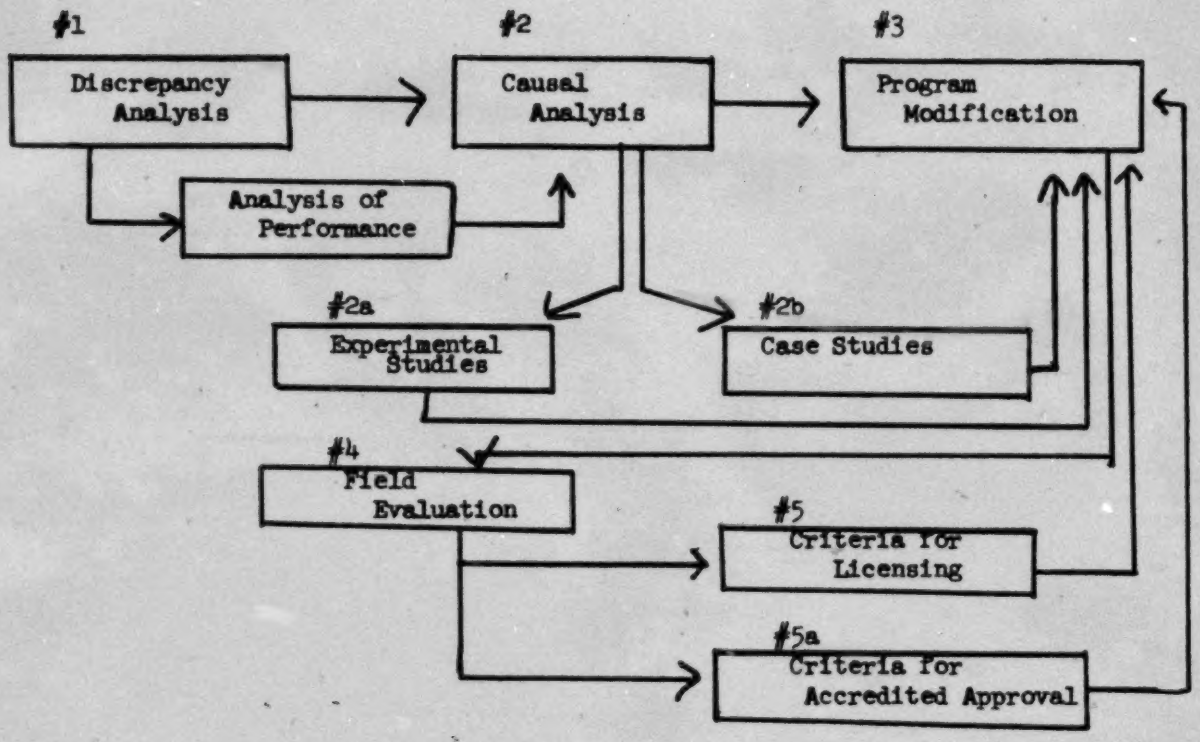
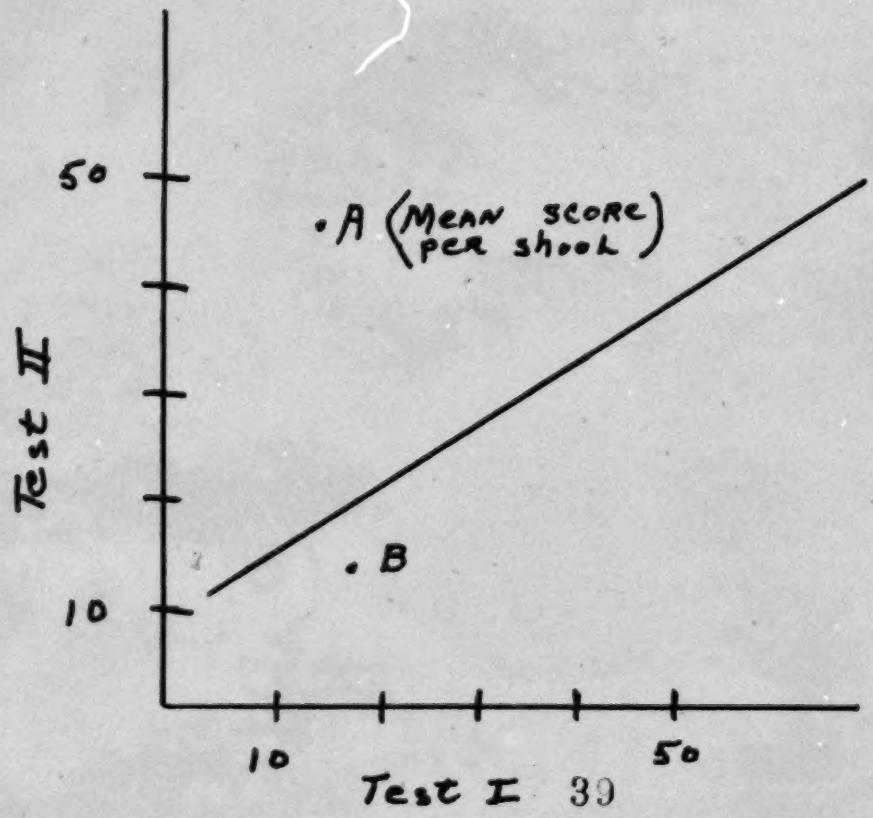


Figure 2
A REGRESSION ANALYSIS OF READING SCORES BY SCHOOLS



curriculum, materials, and facilities affect student performance and interact with teacher performance.

(b) At the same time, this conceptualization is used as the basis of experimental studies in which teachers are trained on skills hypothesized to be influential on learning to read. These studies have two purposes: (1) to study how to train teachers to enact the skills and (2) to study the effects of the use of the skills on students' learning to read.

When teachers have been identified and teaching skills identified that are likely to have an effect on children's learning to read, case studies in depth should be made of the most effective teachers and of schools where children are learning to read. The studies will also provice additional information on the factors in the school and community which make for effective learning and teaching.

Step 3 -- Program Modification

The results of the statistical analysis and the experimental and case studies is a list of competencies which were derived from an analysis of the teaching of teachers whose students were learning to read well and from experimental studies of specific teaching skills. The list of these competencies and information about ways to help teachers acquire these skills is sent to the colleges and universities.

The colleges and universities must then provide evidence that their students are acquiring these skills or evidence that they are modifying their programs so they will acquire these skills.

Step 4 -- Field Evaluation -- A follow-up of beginning teachers.

The students who have demonstrated before beginning to teach that they have the requisite skills are then followed into the classrooms to study

the effects of their teaching on children's reading skills. At this point the cycle of analysis is repeated.

This phase of the study is a field validation of the utility of the teaching skills which have been acquired. It provides additional information on the skills necessary to teach reading.

Step 5 -- Criteria for Licensing and Accreditation/Approval.

As information is derived from these many sources, the list of competencies required to teach reading is gradually refined. At the time that the evidence is strong enough to indicate that these teaching performances are critical, under what conditions they are critical, and how they are influenced by factors in the school and community, they can be the basis for setting standards of competence. Further these experimental studies combined with the field follow-up will provide information to develop criteria for program standards.

GENERAL CHARACTERISTICS OF THE RESEARCH DESIGN

The research design is not spelled out here. What follows it suggestive of how this research will proceed.

The Discrepancy Analysis

The first step in this model is largely what is proposed in the original design. The first step is an analysis (regression) which identifies teachers whose students are achieving well in reading and those who are not in terms of their initial reading performance. This type of analysis is portrayed in Figure 3 where the mean scores for four teachers' students have been shown.

The students of Teachers A and B and of Teachers C and D began on the average at the same point in the fall. But students of Teachers A and D are scoring on the average above what would be expected by spring. A full diagram, one with all teachers represented, would identify all of those

teachers whose students are performing better and less well than expected ("expected" is a statistical concept: this regression analysis is postdiction).

The teachers identified in this way are compared. In essence, we ask what is Teacher A doing that makes him or her more effective.

Causal Analysis

The second step (refer to Figure 1) is a causal analysis of those factors which discriminate teachers who fall above the line from those who fall below. At this point it is necessary to determine what factors other than the teachers' competence may be accounting for the differences in student achievement. Such factors as those associated with home and community, composition of classes, characteristics of the staff and school, and of programs and facilities must be related to these differences. When the influence of these factors is partialled out, a group of classes (teachers with classes) is identified where the differences in student achievement may be reasonably attributed to differences in teachers' skills.

These teachers are then studied to identify those skills which distinguish the more successful from the less successful teachers. How this analysis may proceed is described in the following section. The result of the analysis at this point is a list of competencies.

Since one of the most important features of this design is the identification of teaching competencies that are associated with student performance, we describe in detail how this analysis might be made. We make no brief for all the details since many of these are negotiable. We wish to communicate the possibilities that this kind of analysis has, and its style.

Figure 3

A REGRESSION ANALYSIS OF THIRD GRADE READING SCORES

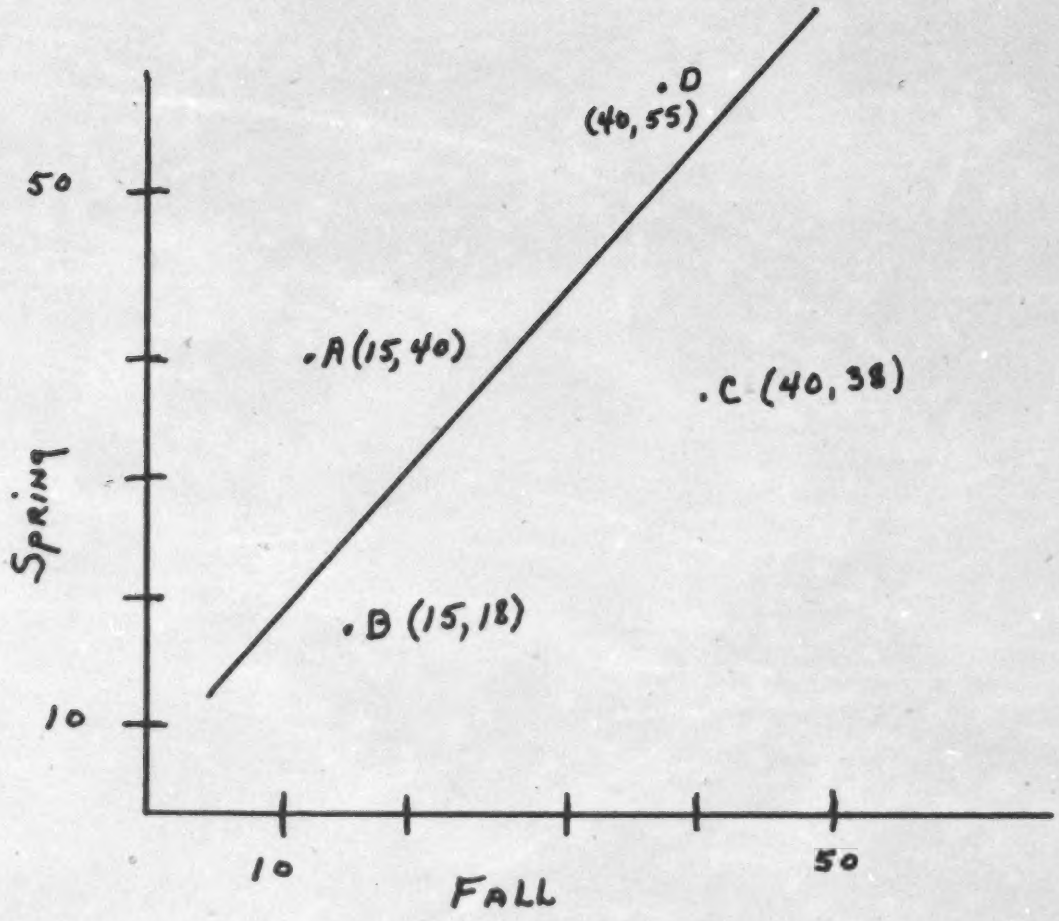
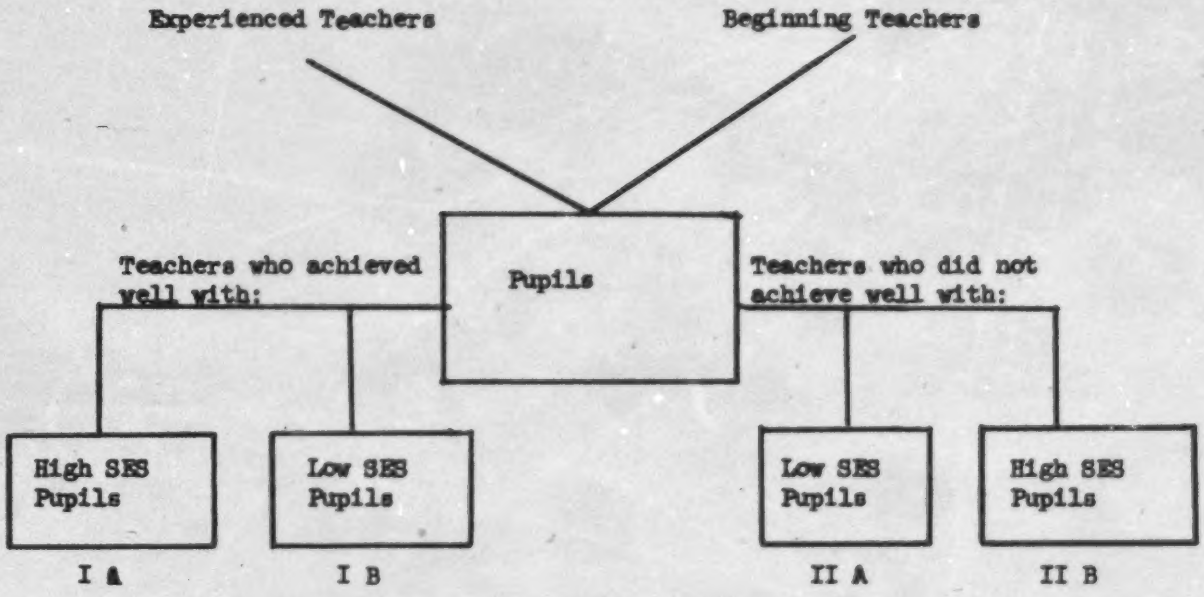
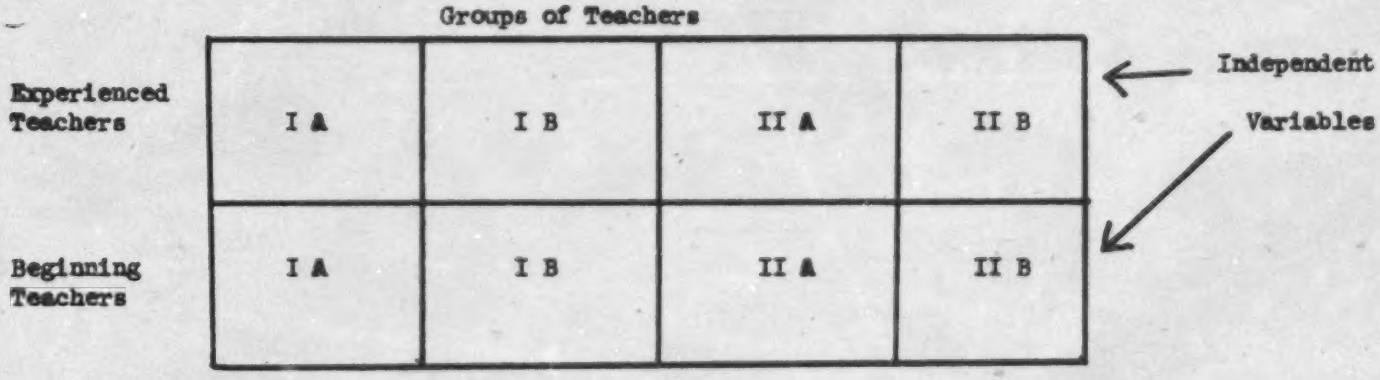


Figure 4

A Model of the Analysis to be made to Find Differences in Teaching Skill Associated with Differences in Pupil Achievement





The steps in conducting an analysis of differences in teaching competence are: (See Figure 4)

1. Select two samples: (1) Experienced teachers and (2) Beginning teachers.

   Experienced teachers are included to identify those competencies they possess which effect achievement. Those experienced teachers can then be compared with beginning teachers to determine if there is a difference in competencies between Experienced and Beginning teachers.

   In addition, new teachers must be included in the study because: (1) the study originally focused on beginning teachers (this is one of the contraints), (2) beginning teachers may lack those competencies which produce achievement, and (3) teacher training institutions may claim to be preparing beginning teachers who possess those competencies which effect achievement of children when, in fact, they are not preparing such teachers -- a comparison of experienced and beginning teachers would determine this.

2. The dependent variable is achievement in reading. Achievement in reading can be determined from standardized tests which measure comprehension (including decoding skills and vocabulary development). In addition, pupils' attitudes toward reading should be included as part of the dependent variable.

   Low SES children generally score poorly on standardized tests. Thus, many educators object to using standardized tests to assess low SES children. However, the objective of the school is to teach low SES children. Standardized tests will determine how well they have acquired reading ability as compared to the general pupil population. In addition, teachers are attempting to teach

these children a reading curriculum that is geared to the general population. Stated another way, the teachers are attempting to "acculturate" low SES children to the reading habits and skills of the general population. Thus, standardized tests are recommended as the instrument to measure the dependent variable.

3. Experienced and Beginning teachers will be compared on the following independent variables. Note that eight groups of teachers will be examined (see the diagram of the specific design).

Teacher Personality Variables

Sex

Race

Verbal Ability

Attitude toward themselves

Attitude toward children

etc.

Teacher Classroom Behavior Variables

Competencies determined through an examination of the literature and an examination of teacher behavior in the classroom

Curriculum Variables

structure

amount of time spent teaching reading

materials

aides,

etc.

Institutional Variables

Size of school

Interaction of faculty

In-service training program

etc.

Curriculum and Institutional variables should be separated from teacher personality and teacher classroom behavior variables. This would identify those teachers who possess the competencies of successful teacher, but who are not effecting achievement because of curriculum and institutional contraints.

Finally, the number of independent variables is infinite. A problem of the study is to determine which variables to include. Therefore, a thorough review of the literature must be conducted. Also, a pilot study is strongly recommended.

THE EXPERIMENTAL PHASE

The purposes of the experimental phase are:

1. To obtain cause-effect evidence on teacher behavior variables that have shown promise in correlational and causal-comparative research.
2. To explore the effects of teacher behaviors that are not likely to occur naturally in the behavioral repertoire of teachers who have not received training that focuses upon these behaviors. Such behaviors would not show up in the initial phases of the research and would be overlooked if the experimental phase were not included.

Procedures

These studies would typically employ pre-post control group experimental designs in which the independent variables would be specific teacher behavior patterns or strategies and the dependent variables would be pupil performance

measures. Although carried out in the field, these studies would employ reasonably tight controls and would be carried out with small teacher samples.

Experimental treatments would involve teacher training using for the most part instructional modules that are already available. Tested modules such as those that have been developed in the protocol materials projects, and at the regional laboratories and R. & D. Centers would be used.

It seems likely that a series of such studies would be needed to achieve the purposes of this phase. These studies, however, would be carried out simultaneously. Thus, this phase could be completed in a relatively short time and at modest cost.

CASE STUDY - (Individual Subject Design Phase)

The purposes of this phase are:

1. To gain insights into variables operating in the district, the school and the individual classroom that may have an effect upon learner performance. It seems likely that many variables that would not show up in the other phases might be found because of the depth possible in the case study approach.
2. To explore inter-pupil performance differences within a given classroom in order to identify possible reasons why pupils of similar capacity respond differently to the same teacher and to what, on the surface, would appear to be a similar classroom environment. Such explorations should provide evidence about the inner structure of the classroom that will make a substantial contribution to the overall project.

Procedures

The approach would involve a few experienced and perceptive investigators who would devote large blocks of time to looking in depth at the

overall educational environment.

In order that this phase might provide evidence in addition to insights, we propose that each investigator identify pairs of children in a given classroom for official observation. Each pair would include a child who is achieving well and a child of comparable ability and past performance who is achieving poorly. Single subject research design (such as employed in experimental psychology and described in Sidman's book, Tactics of Scientific Research) would be employed to compare these children. Investigators would select several pairs of children, and would replicate as needed to test the stability of trends or behavior patterns that emerge.

CONCLUSION

The model then has several attractive features. First, it yields information on teaching competencies which are associated with differences in student achievement. Second, it gives the colleges and universities information on the performance of their graduates. Third, it holds the colleges and universities accountable for modifying or improving their programs that is realistic, practical and manageable. Fourth, it provides data continuously on the performance of graduates which may be used to develop criteria for identifying effective programs. Fifth, it continually tests hypotheses about teaching competence. Sixth, it yields information about other factors that influence student performance.

Results of Meeting of California Education Organization Representatives, Commissioners, and staff

The following comments and responses were received during the general meeting of the Commission representatives, contractors and institutions and education organization representatives from California.

Dr. Charles Johnson, University of Georgia, College of Education, relayed their experiences in Atlanta when an evaluation of an Atlanta reading program was undertaken. He stated that it was his experience that there are problems with making test results public. Also, the teachers and principals must know exactly how the evaluation is being administered.

Raoul Teichlet, California Federation of Teachers, feels that there will be total cooperation at the district level with the teachers as we separate the research activity from evaluation and clearly identify the frame of reference for the teachers that they are part of something. If this project is undertaken as an evaluation there may be less cooperation.

J. Alden Vanderpool, of the California Teachers Association, commended the Commission for the way in which they obtained the consensus of an outside group with regard to their study design. He stated that he would be willing to recommend to CTA's State Council and Board of Governors if need be that teachers cooperate. He stated that it will take a very great effort to get the understanding that will be necessary to make a project like this work. One safeguard must be that the teachers cannot be "volunteered" to work on the project. They must volunteer of their own accord without having any outside pressure applied to them. Some release from the teaching load should be given to those who participate in this study, whether in the form of release time or some relief from additional district responsibilities. There needs to be some assurance that the contractor will talk the project

over with the teacher associations at the appropriate Committee or other levels so that understanding results, and no teacher who volunteers becomes a target for any kind of outside pressure. He also feels it is necessary that someone "watchdog" over the project. This should be someone who both the Commission and the district trusts and should be outside the contracting agency.

Tom Heddon, ACSA, Chairman, Committee of Professional Preparation and Credentials stated that the approach the Commission is taking shows great promise. He would, however, have to see the final design before any endorsement could be made. If the safe-guards are there in terms of involvement of districts and associations, and being assured that the project would be on a volunteer basis, he feels that his association would be willing to cooperate in this kind of program.

John Baird, California University and Colleges, stated that he feels that he can report to the Chancellor and the Deans of Education that they will not have the problems that many have foreseen and that the Commission and the conferees seem to be working toward a mutual acceptable solution to what appears to be a rather difficult problem.

Leo Cain, Board of Trustees, California State Universities and Colleges feels that the study will be endorsed but that it should be remembered that there is a certain amount of campus autonomy and the campus must understand the cooperation aspect.

Douglas Minnis, C.C.E.T., stated that he felt there would be two questions raised by the California Council on the Education of Teachers: (1) the relationship of the research to public policy. (2) will the universities and college campus cooperate in the study? In 1969, the research material

available in teacher education was studied. There is now a pretty broad acceptance that teacher behavior is a source for teacher education. If the research design really offers some answers there will be no difficulty with cooperation. However, if it looks like a project that will get little result, there may not be much interest.

Robert N. Bush, Stanford University Research and Development Center stated that unless you can go out into the schools and get them to collaborate in this effort, there can be no success. He feels that the Commission will be able to bring the groups together in this effort as collaborators. He feels that in the original design and the suggestions made for modification there is not enough built in, continuous, systematic feedback and that it is important that more be built into the design.

Charles Johnson stated that another important consideration is who administers the measurement instruments in the classroom. He suggested that even though it is terribly costly it may be necessary for outsiders to administer the instruments.

The possibility of release time or some other form of relief from teacher responsibilities was discussed. It was felt that this is extremely important but that if a design was presented that had a release time factor built in, there would be considerable objection. However, if some help in the administration of the testing and evaluation instruments was provided, there would be no objection.

Mrs. Paulette Johnson, an elementary teacher on the Commission, stated that she was very enthusiastic about the project and with the support of her principal would be inclined to volunteer for the project. However, she feels it important that the parents be informed as to what is happening with regard to the study.

9. That the overall design should identify the causal factors related to those situations where high and low achievement occurs.

10. That the study should measure more than the student achievement in reading skills. Most felt that the higher cognitive areas should also be included.

11. That pre-tests, post-tests and delayed post-tests of student reading should be conducted.

12. That pupil reading performances should be evaluated by the following factors:

    a. Assessment of comprehension.

    b. Determination of student's attitudes toward learning.

    c. The degree to which students apply reading.

13. That some part of the study must be concerned with the teaching of reading in bilingual, multi-lingual and cross-cultural situations.

14. That in order to secure verifiable economic information about parents the study will have to go directly to the home.

15. That a statistical analysis should be conducted to determine what factors other than teacher behavior influence student achievement. Factors associated with the home, the community, the individual personality of a given class, the faculty and the organizational climate of a specific school need to be examined. In addition, such aspects as programmed curriculum materials and school facilities as they affect and interact with teacher performance should be included in this study.

    That once teachers and teacher skills have been identified as having positive effects on student achievement, individual in-depth case studies should be conducted.

16. That studies should be conducted to measure if newly acquired teaching behavior affects student achievement.

17. That since teacher behavior and student achievement are related to socio-economic considerations, school district expectations and teacher preparation, these areas also need to be incorporated in this research design.

18. That the study should focus on the children of the poor, while including other socio-economic groups to provide a sharper comparison.

CORRELATION, SUMMARY, AND SYNTHESIS OF CONFERENCE FINDINGS

Detailed examination of the transcripts of this conference revealed that there were twenty-seven areas of general agreement and four areas of disagreement.

A. Areas of General Agreement

1. That the study is needed:
   a. To correlate and synthesize existing studies in the area of teacher behavior and student achievement.
   b. To provide information in the area of competency based teacher evaluation.
   c. To comply with the mandate of the Ryan Act.
2. That appropriate literature should be examined in order to determine what type of teacher behavior should be investigated and what systems should be used to evaluate student achievement.
3. That a teacher's diagnostic abilities and communication skills should be included in the study. Thus, a system of determing and measuring the components in each area should be devised.
4. That evaluation methods should include experimental, observational, and paper and pencil instruments. These instruments need to be designed and/or adapted in order to measure teacher behavior and

and student achievement.

5. That a system of identifying those teacher behaviors which most strongly affected reading performance be constructed.
6. That data should be collected which describes the degree of empathy, cognitive activity, and skills in interpersonal relations of the teachers involved in this study.
7. That an effort should be made to identify those causal factors that are exhibited in the performance of successful teachers.
8. That a need exists to determine the techniques used with lower income groups which enable them to reach higher levels of achievement.

19. That the portion of the study calling for identification of teacher preparation institution's expectations for their candidates was important to the study.
20. That teacher training should be competency based and not based on how much one knows about skills.
21. That school districts should assist in developing the list of skills that applicants should demonstrate upon entry into the profession.
22. That teacher training institutions should be encouraged to develop programs of study which would incorporate the data collected in this research.
23. That the overall design should include validation systems, and provide use of computers, video and audio tapes.
24. That the study should proceed in separate stages. Suggested stages were the gathering, correlating and synthesizing of information, the application and testing of information, the altering of teacher preparations and the adoption of these standards to the licensing of teachers. All these areas

were considered vital to the overall design.

B. Areas of Disagreement

1. Whether the study should compare experience with inexperience and/or effective with ineffective teaching.
2. whether selected districts or individual schools and teachers should be used as targets for the study.
3. whether the instrument employed to assess pupil performance be criterion based, or norm based. Some advocated both.
4. two different procedures were suggested for selection of school districts and teachers to be used in this study.
   a. One proposal was a random study of those districts which seem to have a propensity toward high student achievement. The proponents of this position contend that such a system would eliminate politics and/or embarrassment to the participants in the design.
   b. A second proposal was to establish a system of comparative testing coupled with the nomination of schools and teachers by peer institutions. The proponents of this position contend that this would provide greater accuracy in the determination of those schools and teachers which have the greatest effort of student achievement.

Conference Findings On the Characteristics Necessary For Positive Teaching Behavior

1. Teachers should exhibit the skills necessary to communicate effectively with other people.
2. Teachers should be model communicators of a standard American English.
3. Teachers should enjoy the material being taught.
4. Evidence of completion of courses should not be the only means for establishing criteria for effective teaching.
5. The teacher should be a warm and caring human being.
6. The teacher should possess the skills necessary to handle the remedial learner. Stress should be put on the development of listening skills in a variety of learning environments.
7. The teacher should have a command of word attack skills.
8. The teacher should be a diagnostician of learning problems and be able to prescribe solutions to solve those problems.
9. The teacher should be able to identify and develop levels of both the student's cognitive and affective behavior.
10. The teacher should be skilled in human relations and be able to handle interpersonal conflicts.
11. The teacher should be a diagnostician, prescriber and applicator of a creative learning experience.
12. A teacher should be compatible with the local community in which he or she teaches and should understand the socio-economic conditions of the parents in the local school district in which he or she teaches.
13. The local school and community should recognize that the support of the teacher is a primary factor in the teacher's success.
14. The teacher should demonstrate knowledge in the use of a variety of teaching methods in order to be able to deal with a wide range of classroom situations.

Conference Findings for Alternative Designs (Submitted By Phases I, II and IV)

The teacher performance Committee structured a four-step design. These four steps were (A) Instructional and environmental variables affecting student achievement; (B) Teacher training; (D) The linking of teacher behaviors to student achievement criterions; and (D) The application and establishment of teacher licensing standards.

Step A: Instructional and Environmental Variables Affecting Student Achievement

1. Examine literature and develop a list of individual factors related to effective teacher behavior and student achievement.
2. Discover districts in lower socio-economic areas where student achievement is relatively high. Use a random system to determine which of these districts should be included in the study.
3. Focus on the experienced effective teacher in these selected districts.
4. Create both observational instruments and experimental instruments to examine all factors affecting student achievement in low socio-economic areas.
5. Establish a task force of observers equipped with audio and video equipment, to observe for specific periods of time in these assigned districts in order to sift out positive performance factors.
6. Use every conceivable system to gather additional data including observational and experimental studies, evaluations studies of mini-courses run by larger institutional training programs, and case studies of effective teachers with positive behavior.

7. After completion of this study in the lower socio-economic districts, a similar study would be conducted in other areas. Comparison and contrast of findings would then be conducted to determine if there are any significant differences between positive teacher behavior in the lower socio-economic districts and other areas. Audio and video tapes would be re-examined to assist in verifying these findings.

Step B: Teacher Training

1. The design of Phase II would be contingent upon the outcome of Phase I.
2. Teacher training institutions would be encouraged, possibly through changes in State accreditation standards, to incoporate these findings into their training institutions.
3. Experimental studies, mini-training workshops, case studies, and possible internship systems would be studied to determine the best approaches to training new teachers to develop these desired skills.
4. The retraining of experienced teachers would be observed to determine if they have developed the positive teacher characteristics desired.

Step C: The Linking of Teacher Behaviors to Student Achievement Criterions

1. Measurement studies would be conducted to determine if newly aquired teacher behaviors affected student achievement.
2. Post-student achievement records would be examined in order to observe if those students taught by inexperienced teachers in the designated districts had improved. The findings of this study would be compared with student achievement records in the same or similar districts. This would be done in order to see if

differences existed in those classes taught by newly training teachers who possessed the desired behavioral characteristics.

Step D: The Application and Establishment of Teacher Licensing Standards

1. If the results of the previous three phases warrant it, minimum standards for teacher licensing would be recommended.
2. Measurement systems would be developed to determine if newly trained teacher candidates possess those minimum standards desired.
3. Licensing would be contingent upon a candidate's demonstrated abilities in the in the areas identified by these studies.

Pupil Progress Design

The pupil progress committee structured a design with six steps. The steps were: (A) Discrepancy analysis, (B) Causal analysis; (C) Identification of variables strongly affecting reading performance; (D) Program modification; (E) Validation of programs; and (F) Establishment of licensing standards.

Step A: Discrepancy Analysis

1. A thorough review of the literature would be made.
2. Instructional and environmental variables which affect student achievement would be identified and categorized.
3. A survey of available instruments for assessing the relationship of these variables to student achievement would be pursued.
4. Instruments would be selected which would assess teacher behavior in relationship to reading performance.
5. Pre-test, post-test, and delayed post-test measurement of students would be undertaken.
6. Teacher population in the study would include both new and experienced teachers.

8. Student population would include a large group segment of low income children. Children from other income groups would also be adequately represented.

Step B: Causal Analysis

1. A factorial design examining as many relationships as possible would be established.
2. Instructional analysis would place emphasis upon teacher behavior and reading approaches.
3. Student performance would include an analysis of the data dealing with reading comprehension, application of reading, and attitudes towards reading.

Step C: Identification Of Variables Strongly Affecting Reading Performance.

1. The causal analysis would identify those teaching behaviors which most strongly affect reading performance.

Step D: Program Modification

1. Teacher training institutions would be asked to establish programs that would develop these desired skills in their graduates.

Step E: Validation Of Programs

1. A one year field study would be necessary to validate these findings.
2. This field study would be a replication of the design employing recent teacher graduates completing the modified teacher training programs and a control group.

Step F: Establishment Of Licensing Standards

1. The results of the second study would provide the Commission with data for making recommendations and modifications in teacher licensing standards.

Teacher Preparation Institutions Design

A five step system was developed by the Teacher Preparation Institutions Committee. Steps were: (A) Discrepancy analysis; (B) Identifying factors affecting student performance; (C) Program modification; (D) Field Evaluation; and (E) Criteria of licensing and accreditation -- approval.

Step A: Discrepancy Analysis

1. The first task would be to identify schools which are remarkably effective in influencing the learning of students irrespective of where the students were when they entered this phase of their education.
2. Perform a regression analysis of test data gathered regularly in California. (See procedure in original design.)
3. Those schools in which student's perform significantly better would be selected for this study.
4. School districts evaluated in this study would nominate those schools which they feel are affecting student learning significantly.
5. Nominated schools and identified schools would be selected to identify those teachers whose students are achieving significantly better.

Step B: Identifying Factors Affecting Student Performance

1. A statistical analysis would be performed to identify and to study the interactions among those factors other than teacher performance which may be influencing student-achievement.
2. A Task Force would be developed to conceptualize the teacher behavior likely to influence student-achievement by examining previous research and experience.

3. This conceptualization would then be used to analyze the components of teaching skills which differentiate the more effective teachers from those teachers achieving "average" results.

4. A statistical analysis would be made to determine if other factors affect student performance and interact with teacher performance.

5. This conceptualization would be used as the basis for experimental studies in which teachers are trained in developing the skills found to be influential in a pupil's learning to read.

6. In-depth case studies would be made of those schools and those effective teachers whose children are learning to read.

Step C: Program Modification

1. A list identifying the competencies of the more effective teachers would be developed.

2. This informational list of competency skills, along with suggestions to help teachers acquire those skills would be sent to colleges and universities which train teachers.

3. Those colleges and universities may then be asked to provide evidence that their students are working to acquire these skills. At a later date, those teacher training institutions will be asked to present evidence that they are modifying their programs to insure that future teachers acquire these skills.

Step D: Field Evaluation

1. The students who have demonstrated before beginning to teach that they have the requisite skill, could be followed into the classroom to study the effects of teaching on these children's reading skills. At this point the cycle of analysis would be

repeated.

Step E: Criteria For Licensing And Accreditation -- Approval

1. The list of competencies would be gradually refined.
2. Whenever new evidence indicated that additional skills are critical, these would be tested. If found significant, these new competencies will be the basis for future licensing and teachers accredation.

APPENDICES

APPENDIX A -- Section 13114 of Teacher Preparation and Licensing Law of 1970.

APPENDIX B -- Stull Act, Article 5.5

APPENDIX C -- Conference Attendees.

APPENDIX A -- Section 13114 of Teacher Preparation and Licensing Law of 1970.

13114 -- The duties of the commission shall be to implement this chapter, to establish and promulgate standards and procedures for certifying educational personnel as qualified for a license to practice in the public schools of California, and to support, facilitate, and delineate functions and programs of preparation for the teaching profession.

The Commission, consistent with the terms and provisions of this article, shall have the following powers and duties:

(a) To develop standards and procedures for the certification of educational personnel.

(b) To promulgate appropriate rules and regulations.

(c) To issue credentials upon certification to the State Board of Education.

(d) To provide leadership and to coordinate resources for the improvement of teacher education.

(e) To establish advisory committees consisting or representatives from various elements of the teaching profession related to each subject specialization which will help formulate performance standards for general teaching and other educational specialties.

(f) To develop and recommend to the Legislature for its approval alternative ways in which to demonstrate qualifications for licensing which are adapted to individual differences in candidates, preparing institutions, and performance requirements, while at the same time protecting against incompetence.

(g) To develop objective, independently verifiable standards of measurement and evaluation of teaching competence as it relates to teacher licensing.

(h) To develop new or employ existing objective examinations as a measure of subject matter knowledge for the purpose of certifying educational personnel.

(i) To develop objective standards for the identification of specialist teachers.

(j) To monitor and evaluate the results of its action as it relates to the performance of teachers licensed under this article.

(k) To develop and recommend to the Legislature for its consideration, any necessary or desirable legislation to require the continuing education of certified personnel and the issuance of life credentials.

APPENDIX B -- Stull Act, Article 5.5

Article 5.5 Evaluation and Assessment of Performance of Certificated Employees

13485. It is the intent of the Legislature to establish a uniform system of evaluation and assessment of the performance of certificated personnel within each school district of the state. The system shall involve the development and adoption by each school district of objective evaluation and assessment guidelines.

13486. In the development and adoption of these guidelines and procedures, the governing board shall avail itself of the advice of the certificated instructional personnel in the district's organization of certificated personnel.

13487. The governing board of each school district shall develop and adopt specific evaluation and assessment guidelines which shall include but shall not necessarily be limited in content to the following elements:

(a) The establishment of standards of expected student progress in each area of study and of techniques for the assessment of that progress.

(b) Assessment of certificated personnel competence as it relates to the established standards.

(c) Assessment of other duties normally required to be performed by certificated employees as an adjunct to their regular assignments.

(d) The establishment of procedures and techniques for ascertaining that the certificated employee is maintaining proper control and is preserving a suitable learning environment.

13488. Evaluation and assessment made pursuant to this article shall be reduced to writing and a copy thereof shall be transmitted to the certificated employee not later than 60 days before the end of each school year in which

the evaluation takes place. The certificated employee shall have the right to initiate a written reaction or response to the evaluation. Such response shall become a permanent attachment to the employee's personnel file. Before the end of the school year, a meeting shall be held between the certificated personnel and the evaluator to discuss the evaluation.

13489. Evaluation and assessment of the performance of each certificated employee shall be made on a continuing basis, at least once each school year for probationary personnel, and at least every other year for personnel with permanent status. The evaluation shall include recommendations, if necessary, as to areas of improvement in the performance of the employee. In the event an employee is not performing his duties in a satisfactory manner according to the standards prescribed by the governing board, the employing authority shall notify the employee in writing of such fact and describe such unsatisfactory performance. The employing authority shall thereafter confer with the employee making specific recommendations as to areas of improvement in the employee's performance and endeavor to assist him in such performance.

Sec. 41. Sections 1 to 39 of this act shall become operative on the 61st day after the final adjournment of the 1972 Regular Session of the Legislature.

Sec. 42. Article 5 (commencing with Section 13401) and Article 5.5 (commencing with Section 13485) of Chapter 2 of Division 10 of the Education Code shall not apply to certificated employees in community colleges if Senate Bill No. 696 or Assembly Bill No. 3032 is enacted at the 1971 Regular Session of the Legislature.

NOTE:
Article 5.5 became effective September 1, 1972.
Sections 1 through 39 will become effective on the 61st day after adjournment of the "veto session" of the 1972 Legislature.

APPENDIX C -- Conference Attendees

Baird, John: Chancellor's Office

Borg, Walter: Utah State University

Boyd, William: Bureau of Teacher Education, New York State Education Department

Braun, Frederick: University of Hawaii

Bush, Robert: Stanford Research and Development Center

Campbell, Vince: American Institute for Research, Stanford

Collins, Carter: Office of Economic Opportunity

Cronbach, Lee: Stanford University

Cross, James G. M.D., C.S.B.A.

Delevan, Frank: Department of Finance

Finley, Carmen: American Institute for Research

Fisher, William: Superintendent of Schools, Orinda Union Elementary, Orinda, California

Foster, Marcus: Superintendent, Oakland City Unified Schools.

Gagne, Robert M: Center-Behavioral Sciences, Stanford

Gatheral, Maryann: Representing University of California (teaching at Davis)

Goodland, John: Dean, Graduate School of Education U.C.L.A.

Gordon, Garford: C.T.A.

Hedden, Thomas: Association California School Administrators

Hunt, Herold C.: Professor Emeritus, Harvard

Johnson, Charles: University of Georgia

Johnson, Ken: Professor of Education, Berkeley

Levin, Henry: Stanford University

Lindgren, Richard: Nat. Ed. Prog. Association

McDonald, Fred: Director, Division of Education Studies, ETS.
Chairman, Teacher Education Research School Division

Marderosian, Haig: Professor, University of Massachusetts

Appendix C: (continued)

Mayrofer, Albert: Asst. to Dean, School of Education, University of South Carolina

Minnis, Doug: Representing University of California, Council on Teacher Education, Head of Teacher Education, U.C. Davis

Newcomer, Lee: President, La Verne College

Rosenshine, Barak: University of Illinois

Silvaroli, Nick: Arizona State University (Tempe)

Sorenson, Philip: Stanford Research Institute

Stallings, Jane: Stanford Research Insitute

Teilhet, Raoul: California Federation of Teachers

Vanderpool, J. Alden: California Teachers Association

Vasquez, James: Contemporary Research, Inc.

Wilcox, Mary: Stanford Research Institute

Knispel, Margaret: National Ed. Association, Instruction & Professional Development, Washington, D. C.

Commission for Teacher Preparation & Licensing

Commission Members:

Cain, Leo

Crow, Kathleen

Evans, Eunice

Green, J. Stanley

Johnson, Marcell

Johnson, Paulette

Martinez, Daniel

Stewart, Mary Ann

Staff:

Gustafson, George A.

Ringis, R. H.

Mac Nair, C. Richard